

Volume 37 Number 8

MAY 1955

Route to

*Dash*

# School Life



◀ On A Historic Day  
—April 25, 1955

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U. S. DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE  
Office of Education

# An Educational "Bottleneck"

by Henry H. Armsby\*

**W**HETHER we like it or not, we are in a race for technological supremacy with the Communists. We have been too complacent in our assumption that we are far ahead of them. We have not given sufficient recognition to their sources of raw materials, to their vastly greater population, to their willingness to sacrifice everything else to advance their ambitions for world domination.

They have been willing to use a larger share of their resources, human and material, for war-supporting industries, and to leave a smaller share for consumer goods than we are willing to accept as a steady diet. They have greatly increased their output of engineers and scientists to a level which, if continued, will soon eliminate our accumulated advantage.

We urgently need to take stock of our resources of scientific and professional manpower, our most precious commodity. We need to be sure we are developing and using it to our best advantage.

It is interesting to compare the output of our engineering colleges with the most reliable data we have on the output of engineers and technicians in Russia.

The Director of the Office of Scientific Personnel of the National Research Council estimates that the annual output of Russian engineering colleges has been climbing steadily, and that this year they will graduate about 50,000, most of whom will be graduates of 5-year curriculums, and some of 6-year curriculums.

He also estimates that there were in 1952 about 3,500 technical institutes in Russia with an enrollment of 1,200,000 students and with about 350,000 graduates per year from 3- or 4-year courses, about 50,000 of whom seem to be in a field related to engineering. Compare this figure with the approximately 10,000 graduates from our United States technical institutes last June.

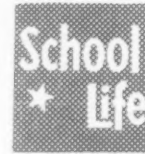
In the face of growing needs for the technological team we find a diminishing interest in high school science and mathematics, subjects which are basic to engineering and science. The percentage of high school students studying chemistry declined from 10 in 1890 to 31½ percent in 1943, and to 7½ in 1952. The percentage of students studying physics declined from 22½ in 1895 to 7½ in 1943, and to 4½ in 1952. In 1943, 50 percent of the high schools were offering the course. In 1952 only 47 percent of the schools offered this subject.

This condition is both the cause and the result of the shortage of qualified teachers. It has existed for a decade, and is growing worse, especially in science and mathematics. While high school enrollments go steadily

(continued on page 127)

\*Excerpted from an address by Dr. Armsby, Chief for Engineering Education, Office of Education, U. S. Department of Health, Education, and Welfare, before the Purdue University Branch, American Society for Engineering Education, Lafayette, Indiana, April 28, 1953.

Official Journal of



the Office of Education

Cover photograph: Two of the Nation's millions of children vaccinated on April 25 as a possible protection against poliomyelitis were photographed for SCHOOL LIFE. They are Deborah Robinson and Marvin Miller, first-grade pupils at Oakridge Elementary School, Arlington, Va. Dr. Dominick J. Addonizio, of Georgetown University Medical School and Arlington Hospital administered the vaccine to many of the children at Oakridge Elementary School. The photograph was taken by Archie Hardy, photographer, U. S. Department of Health, Education, and Welfare.

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Published each month of the school year, October through June

To order SCHOOL LIFE send your check or money order (no stamps) with your subscription request to the Superintendent of Documents, Government Printing Office, Washington 25, D. C. SCHOOL LIFE service comes to you at a subscription price of \$1.25. Yearly fee to countries in which the frank of the U. S. Government is not recognized is \$1.75. A discount of 25 percent is allowed on orders for 100 copies or more sent to one address within the United States. Printing of SCHOOL LIFE has been approved by the Director of the Bureau of the Budget. (September 19, 1952.)

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# Why Have a Board of Education?

by Fred F. Beach, Chief, State School Administration, and Robert S. Will, Research Assistant,  
State School Administration, Office of Education, U. S. Department of Health, Education, and Welfare

**B**OARDS OF EDUCATION are one of America's greatest contributions to the science of public administration. The type of control which has come to be expected from these boards is representative of the democracy in which we live. Developed by the people in the early days of our Republic to carry out the people's will in educational matters, these boards have become the most significant agencies in Government solely concerned with the management of the Nation's schools and colleges. An overwhelming majority of the 63,000 local school districts in the United States are governed by boards of education. All State institutions of higher learning are governed by education boards and the great majority of other State programs of education are headed by boards.

The people did not decide upon boards of education in preference to other types of agencies as their policymaking bodies by chance. In the relatively small number of cases where boards of education are not the policymaking bodies but where, instead, an individual has been given this responsibility, there is frequently agitation to change the system and replace the individual with a board. Where boards of education exist, there is a notable absence of any effort to change the system.

A recent study<sup>1</sup> summarizes the reasons that boards of education have been preferred by the people over individuals as policymaking agencies for education.

*A board of education is more representative of the total population it serves than an individual policymaking agent is.*—A board more adequately represents a geographical area and the various groups and interests within the area than a single agent does. This is only natural because the board is composed of several persons. Representation implies personal knowledge and understanding resulting from personal contact. Obviously, several persons are likely to have more direct contacts with the people being served than a single agent has.

*A board of education can make wiser and sounder policy decisions than a single individual can make.*—The board of education as a deliberative body is not confined to an individual viewpoint which might be fettered by biases and prejudices. The very act of discussion and debate within the membership brings out points of view beyond the experience of any one member. Thus, board decisions may be based upon broad understandings of the problems confronting the varied interests of all persons being served.

Recognizing the limitations of the individual, the people feel that no one individual is likely to have the experience and detailed knowledge of conditions essential to make valid policy decisions on all educational matters. This likelihood is doubly applicable when the individual policymaker is also the executive agent.

*A board of education serves as a safeguard against the abuses of discretionary powers.*—The people employ a board when they have been firmly convinced that the discretionary powers required to conduct a governmental agency should not be entrusted to an individual. Most powers of a board of education are vested in the entire board rather than in a single member. Motives of personal and political gain, which may appeal to the individual policymaking agent, are less attractive to the board as a whole, and immeasurably more difficult of attainment by individual members of the board. Collusion is difficult when decision-making requires all members of the board to participate. Then, too, board actions are generally open to the public. Under these circumstances there is less chance for a board to abuse discretionary powers than there is for an individual policymaking agent to do so.

*A board of education acts as a safeguard against the involvement of education in partisan politics and the spoils system.*—Experience has clearly shown that political considerations and favoritisms inimical to education are much more likely to be present when an individual is in complete control of policymaking activities than when the same activities are controlled by a board. Convinced that partisan politics and the spoils system should never gain a foothold in their schools, the people have overwhelmingly accepted the board as the best instrument for combating this evil.

*A board of education is a safeguard against needless disruption in the continuity of an educational program.*—With every change of individual policymaking agent, the educational program is likely to be disrupted. Long-term objectives, carefully laid plans, and partially completed projects are frequently swept aside for new objectives, new plans, and new projects. Such a complete change can seriously damage the ongoing educational program. A board of education, on the other hand, can make desirable changes while retaining continuity in the overall program. The general practice of overlapping terms for board members, with terms of sufficient length to insure an experienced majority on the board at all times, provides boards with the stability required to keep on a steady course.

*A board of education provides an economical means for management and control of the educational program.*—Keeping the cost of government to a minimum has always been a matter of

(Continued on page 125)

<sup>1</sup> Fred F. Beach and Robert S. Will. *The State and Education, Part I, The Structure and Control of Public Education at the State Level*. U. S. Government Printing Office, 1955. (U. S. Department of Health, Education, and Welfare, Misc. No. 23.) (In press.)



# City Supervisors Discuss Educational Problems

by Gertrude M. Lewis, Specialist for Upper Grades, Office of Education,  
U. S. Department of Health, Education, and Welfare

**F**ROM APRIL 4 to 7, 1955, 70 educators responsible for the instruction of elementary-school children in the public schools in 56 of the largest cities in 31 of the 48 States, met at the invitation of the Elementary Schools Section, Instruction, Organization, and Services Branch, U. S. Office of Education, in a lively conference. There they exchanged information and viewpoints about some of the most pressing problems they are dealing with in trying to provide good educational opportunities for all of their children. The first conference for Supervisors of Elementary Education in Large Cities, in April 1954, met with such enthusiasm among participating educators that the 1955 conference was in reality a "request performance."

Opening the 1955 conference, United States Commissioner of Education Samuel Miller Brownell, pointed out the need for educators who are responsible for the instruction of children to keep focusing on the quality of education. In the present struggle to provide children with a "place to sit," a good teacher, books, and other materials, he said, it is hard for the school leader to "keep his eye on the ball" to see that children receive the best quality of instruction. He called to mind that the instruction of children has been made difficult by the rapid changes in living in our times fully as much as by shortages of school building space and teachers. Not only are these changes technological; they are social as well, he said.

Instructional leaders need to work hard, the Commissioner said, to keep themselves and classroom teachers "up-to-date" so that educational opportunities provided for children may be "current instead of historic." He called attention to the need for increased international understanding, suggesting that the role of the school in this respect be examined to see what can be done to increase among our own people understanding of the world as well as of the communities at home. There is also need to reex-

amine the role of the elementary school, he suggested, in the preservation of American values (particularly respect for the individual) and in the communication of these values to other countries. Through illustrations from his recent experiences at the UNESCO meeting in Montevideo he showed that many countries of the free world are struggling to grasp the full meaning of these concepts and to translate them into the processes of their own societies.

Helen Mackintosh, Chief of the Elementary Schools Section, and Elsa Schneider and Wilhelmina Hill, Specialists in the Section and cochairmen of the conference, were responsible for its organization. All members of the section gave assistance. Participants, who were selected by their superintendents, were informed of the nature of the conference several months in advance. Materials of instruction which had been developed in their cities and sent ahead for display became a vital source of interest to educators working in similar circumstances. Problems which were suggested by the supervisors in correspondence with the Office formed the agenda for the conference.

Among problems which commanded attention was the following: How can supervision in large city systems be organized and carried on so that the school program

may be well coordinated for children, so that progress from kindergarten through high school may be well articulated, and so that communication may be effective throughout the city, between the individual building and the central office, and among staff members within large buildings? Involved in this discussion were matters of organization and assignment of duties in the central office. It was felt that the individual interests of assistant superintendents and both general supervisors and supervisors of special subject-matter areas sometimes stand in the way of a well-coordinated program for children, and that effort expended by the central office to secure a common philosophy, mutual understanding, and good human relations would be well repaid.

The largest cities (750,000 and above) were most concerned about this, although all other groups (250,000-750,000, 100,000-250,000, under 100,000) also reflected some concern.

Among the 25 to 30 cities under 250,000 the majority had a person in the central office with the title, Director of Curriculum, or a similar title, with administrative authority over the entire system to coordinate the complete program. Supervisors work "under him," with responsibility for restricted geographic or instructional areas. Most of the supervisors work citywide, but a few work in restricted geographic areas or designated buildings. On the average, a supervisor is responsible for from 200 to 600 teachers.

The principalship was pointed out as a key position in the operation of an elementary school and in the quality of its instructional program. In some of the cities represented individual schools are practically autonomous. In these the principal is al-



S. M. Brownell, Commissioner of Education, addresses the opening session of the Elementary Supervisors Conference in the Office of Education. To the Commissioner's left, are left to right, Helen K. Mackintosh, Acting Chief, Elementary Schools Section, Office of Education; J. Dan Hull, Acting Director, Instruction, Organization and Services Branch, and Elsa Schneider, Elementary Education Specialist, Office of Education.

most entirely responsible for the school: for coordination of the staff, relations between the school and community, the instructional program, materials of instruction, the well-being and progress of the children, orientation (sometimes procurement) of new teachers, and on-the-job improvement of all staff members.

How the supervisory staff can help the principal meet the responsibilities of his job received much attention. Practically all of the conferees considered it important to select for the principalship one who has had broad training and experience in elementary education, and who has demonstrated that he has ability for leadership and for administration. Several cities have plans to give new principals a good introduction to their jobs. One system sets the "selected" principal free from teaching 6 weeks before school is out. He spends one full day in each department of the central office, and 4 weeks internship with a successful principal of a school similar to his. Another selects the principal early in the year preceding assumption of duties, and helps him make a self-development plan for the year. Others have demonstrations and discussions for prospective and beginning principals.

For principals on-the-job, it was found that most cities provide ways to come together in small groups to study and discuss what comprises a good instructional program. In the largest cities, study groups are from geographic areas (sometimes districts) of the city. Supervisors are sometimes invited to meet with principals, and "good teachers" occasionally demonstrate for them and stay for discussion. These conferences are sometimes held within school time, after school, or before school opens in the fall; sometimes an extended workshop of several days is planned for demonstrations, examination of materials, and discussions leading to better understanding of a good school program.

Working on committees which are revising the curriculum was considered valuable experience for principals, although one principal who attended the conference humorously injected the thought that some principals receive so much of this valuable experience that it interferes with their administration of the local school, while others are deprived of it.

There seemed to be unanimous feeling that principals cannot do the total job expected of them in the school without ade-



One of the discussion groups during the Elementary Supervisors Conference.

quate help. Full-time clerical help was agreed to be a "must." An assistant principal was recommended for a school of approximately 600-1,000 children, and a curriculum consultant as well for schools of more than 1,000. It was considered a good plan to release some good teachers from teaching duties for 2 or 3 years to serve as "helping-teachers," especially to work with new teachers.

The work of supervisors, they felt, should be as much "on-call" as possible, at the request of principals, and their services should be consultative rather than mandatory.

As a way to increase communication, school bulletins were considered effective if they are not so numerous or detailed that reading them becomes an additional burden to principals and teachers who are already too busy. A circular written by principals for principals is used in one city; another uses a school district bulletin to which supervisors, principals, and teachers of the elementary and secondary schools contribute. Other means mentioned were staff meetings, curriculum committees and councils which represent both elementary and secondary schools, employees' councils, school-community councils, and newspaper, radio and TV programs.

Should children be grouped along ability lines for educational purposes? Most of the educators present favored grouping children heterogeneously insofar as this is possible, but with classes of reasonable size and consultative help for the teachers so that opportunities and materials might be

well-designed to challenge the interests and meet the needs of all children in the school.

The entrance age into school was considered an important factor in the progress of children through school. Although the consensus of the group favored at least 6 years for entry in grade one, entrance ages in the cities represented range from 5.5 to 6 in practice. The question was raised as to whether too early entrance might be responsible in part for children's difficulty in reading in later childhood. Though there is no research to throw light on the matter, there was conviction that too early entrance does children no good. (The Office of Education will make a preliminary report soon on a study which the staff is making of entrance ages into schools. Some facts were collected at this conference.)

Methods of reporting to parents about the progress of their children was a center of great interest. Confidence was expressed practically unanimously in parent-teacher conferences as a way of securing mutual understanding and trust. Letters and report cards were thought useful and perhaps necessary but secondary in effectiveness to person-to-person consultation. Children are sometimes included in the conferences, and frequently have opportunity to evaluate their own work and behavior.

The rapid-fire question and answer method used at this conference, the keen listening to find out what the cities represented were doing and thinking brought out many other professional interests, among them: How do you secure enough teachers? How do you orient your new teachers?

(Continued on page 125)

# Geiger Counters to Scholarships and Fellowships

by Theresa Wilkins, Research Assistant, Division of Higher Education, Office of Education,  
U. S. Department of Health, Education, and Welfare

**W**HEN, more than 100 years ago, gold was discovered in California, no further incentive was needed to insure the westward trek which in truth caused the youthful United States of America to stretch "from sea to shining sea." Today prospecting for gold is merely the theme of an occasional Hollywood movie. The excitement that grips the minds of men is not to strike it rich through discovery of new and fabulous gold deposits or diamond mines. The magic word is uranium, whether in pitchblende deposits in Colorado, the Belgian Congo, Canada, Czechoslovakia, or in stocks on Wall Street.

The scientist uses a Geiger counter or a scintillometer to search for uranium ore. Uranium being radioactive causes clicks in the headphone of the counter. If all other reasons for the clicking are eliminated, the scientist can tell when uranium is present, and, depending upon the speed of the clicking, how much. Geiger counters may be used for other purposes besides detecting uranium. They may be used to measure the speed of life processes in animals and plants. They may follow the flow of water or oil through pipes and detect leaks. A particular kind of pitchblende, scholarships and fellowships, and some of the detectors—Geiger counters—to be used in search of scholarships and fellowships are discussed in this article.

It frequently comes as a shock to the high school graduate who is fortunate enough or sufficiently industrious to rank in the upper quarter of his graduating class that half a dozen colleges are not vying with each other to persuade him to join their student bodies in the September following his graduation. Parents of the outstanding high school graduates are likewise often surprised that it is necessary to explore the possibility of obtaining a scholarship, preferably several months or even a year before graduation. Rumors of unclaimed scholarships and of federally sponsored grants serve to add to the amazement. Few

college students have the competence and the time to earn all expenses incident to attending college. Loan funds are reported to be abundant, but rarely are they available to beginning college students. The more advanced college student, although eligible for loans, is often unwilling to obligate himself before his occupational career begins. Financial assistance in the form of scholarships and fellowships is needed and some is available, although not always in the amount or with the freedom of choice in institution or curriculum the recipient might desire.

The major sources of financial assistance for college students, graduate and undergraduate, are government, foundations, industry, and other agencies and individuals. Governmental sources include foreign, Federal, State, and local. Foundations include the giants—Ford, Rockefeller, Carnegie, Duke, Kellogg, Commonwealth, Kresge, which customarily operate through other agencies—and the smaller ones which frequently administer grants directly. A few of the industrial corporations that have come to the aid of higher education in recent years are Bethlehem Steel, Columbia Broadcasting System, Du Pont, Ford Motor Co., General Electric, General Motors, Gulf, Mobile and Ohio Railroad, Radio Corporation of America, Standard Oil of Indiana, Standard Oil of New Jersey, Union Carbide, United States Steel, and Westinghouse Electric. Other agencies are labor unions, associations, fraternal organizations, religious groups, and the institutions themselves.

## Governmental Sources

An example of scholarship aid available from a foreign government is the program of Marshall scholarships offered by Great Britain, the announcement of which states in part:

"Twelve Marshall scholarships at British universities are offered yearly by the British Government to United States graduate stu-

dents. The awards are an expression of the United Kingdom's gratitude for the generous and farsighted program for European recovery and are made to students of either sex, who must be citizens of the United States. Candidates must be graduates of a degree-granting college or university of the United States."

Current Federal activities in higher education fall roughly into the following categories:

- (1) aid to special groups of individuals, such as veterans;
- (2) aid to individuals for study in special fields, such as military science;
- (3) aid to individuals for study (in non-specified fields) to promote some policy of the Government, such as the development of international good will;
- (4) annual grants to particular institutions for special purposes, such as agricultural education in the land-grant institutions; and
- (5) grants and contracts for research, including funds for the construction of research facilities, in certain fields, such as the physical sciences.<sup>1</sup>

Last July the Congress enacted the Vocational Rehabilitation Act of 1954 (Public Law 565, 83d Congress), designed to carry out the President's recommendation to strengthen and substantially expand the Nation's resources for the rehabilitation of handicapped people. At present grants are being awarded to institutions offering graduate training in rehabilitation counseling, counseling psychology, vocational counseling, social work (including specialization in social work), and undergraduate training in physical and occupational therapy. Through these grants, research fellowships,

<sup>1</sup> *Federal Scholarship and Fellowship Programs and Other Government Aids to Students*. A report prepared in the Legislative Reference Service of the Library of Congress. Printed for the use of the Senate Committee on Labor and Public Welfare. Washington, D. C.: U. S. Government Printing Office, 1950.



predoctorate and postdoctorate, are available. Traineeships are awarded to students by the Office of Vocational Rehabilitation upon recommendation of the training center collaborating in the training program of the Office. Lists of participating centers and information about research fellowships may be obtained directly from the Office of Vocational Rehabilitation, U. S. Department of Health, Education, and Welfare. The eligibility requirements of these training and research opportunities are similar to those of the older program of the National Science Foundation except that for the present year no deadline for the receipt of applications has been set and no age limit has been established.

There is no general scholarship or fellowship program financed by the Federal Government. Opinion is sharply divided on the issue, one school of thought holding that it is the responsibility of the Federal Government to equalize educational opportunity; the other that education is the function of the State and the danger of Federal control would be inherent in Federal support. The urgent need for a solution to problems of shortages at the elementary school level has reduced to a place of minor interest the question of the needs of students in higher education.

Two-thirds of the States have made provision for some kind of scholarship aid. The need is acute, however, in those States where support for higher education has been inadequate. New York administers an extensive program at a cost of \$4 million a year. Illinois administers a similar program. The valedictorian of each graduating class in an accredited high school is entitled to a scholarship in certain States. In other States, tuition is free in the State teachers colleges to a designated percentage of the entering class. Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, and Virginia offer grants to encourage medical students who agree to practice in their rural districts. These grants are in the form of loans which may be canceled at an established rate for each year of service to the State; if the graduate fails to perform such service, they are repaid with interest. Florida maintains the same kind of program for persons willing to become teachers or to enter government service within the State.

Local governmental agencies have more frequently established junior and commu-

nity colleges than they have awarded scholarships. Awards that are available from this source are usually not widely publicized and are restricted to residents of the local community.

### Foundation Contributions

According to John Price Jones, Chairman of the John Price Jones Co., Inc., fundraising counselors, "Toward the support of . . . privately controlled institutions, the generous American public makes philanthropic gifts of approximately \$215 million a year."<sup>2</sup> But the need for scholarship assistance alone has been estimated at \$226 million annually.

Foundation giving for individual grants is frequently channeled through other agencies. The Ford Foundation, for example, has established the Fund for the Advancement of Education through which programs of grants are administered. The Fund itself operates through colleges and universities in administering the early admissions program and the college faculty program and through public school systems for the high school teacher program. The Fellowship Office of the National Research Council serves as the screening agency for certain foundation, industrial, and governmental programs. The Council actually administers the grants in some cases. In others it screens applicants and makes recommendations to the donor. The Institute of International Education serves as an international clearinghouse for exchange of persons programs sponsored by public and private agencies. Over the years it has developed skills and techniques that need not be duplicated at an economic disadvantage to the agencies sponsoring the grants.

New foundations are constantly being established and old ones have their assets augmented by new contributions. In October 1953 the Eisenhower Exchange Fellowships were established in honor of the President. The Board of Trustees plans eventually to provide 75 fellowships each year to bring foreign students to this country and to permit United States citizens to study abroad.

### Corporation giving

In 1935 the Congress passed a Revenue Act which exempted from tax contributions of corporations to charitable agencies up to 5 percent of their net income. Corpora-

<sup>2</sup> John Price Jones, *The American Giver: A Review of American Generosity*. New York: The Inter-River Press, 1954. p. 60.

tions have been hesitant to contribute to educational institutions for various reasons, one of which was the legality of such giving. In May 1953, Justice Stein of the New Jersey Superior Court rendered a decision holding that the corporation in the test case could legally make a contribution to Princeton University. The decision was unanimously upheld in the New Jersey Supreme Court in June of the same year.

Since World War II many corporations have established plans for giving to educational institutions. One example is the program of General Motors. In January of this year General Motors issued a statement describing its expanded financial support to higher education. The new program includes two plans of interest to undergraduates: The college plan and the national plan. The college plan affords 250 four-year scholarships to be awarded by 107 private and 39 public institutions in 38 States. The selection of the private institutions was based on a formula giving weight to the number of graduates of the institution employed by General Motors. The National Plan affords 100 four-year scholarships to high school seniors who have distinguished themselves in their secondary school careers and who are winners in a competitive examination conducted by the Educational Testing Service of Princeton, N. J. Scholarship awards will range from \$200 to \$2,000 in both plans, depending upon demonstrated need. The first 350 students receiving scholarships will enroll as freshmen in the academic year beginning in September 1955. When the program is in full operation in its fourth year, 1,400 students will be receiving benefits.

### Other Grant-Making Agencies

Approximately 5 years ago the Office of Education compiled a report on scholarships and fellowships available at institutions of higher education. The reports, received from approximately two-thirds of the institutions, gave ample evidence of the generosity of professional and educational associations, fraternal organizations, religious groups, labor unions, small businesses, institutional alumni, other individuals, and the institutions themselves. The most generous donor, based on information furnished by a majority of the reporting institutions, was the educational institution. One-third of the funds administered for scholarships and fellowships by the institutions were from their unrestricted income.

Frequently a question is asked about the total amount available for scholarships and fellowships. Another question usually asked is the extent of the need for financial assistance. A completely satisfactory answer is not available for either question. We know that the colleges themselves report approximately \$40 million annually as expenditures for scholarships, fellowships, prizes, and other forms of student aid, but we do not know how much more is not channeled through the colleges. Perhaps an agency which combined the investigative powers of the FBI with the tabulating skills of the Bureau of the Census would be able to ferret out all the big and little grants and produce a total that would be almost valid for a week or two, but it is doubtful if the changing statistics would justify the expenditure of time and money. The Bureau of Internal Revenue collects a great deal of information from the incorporated organizations, but there is no central clearing-house for the unincorporated organizations all over the country which budget varying amounts for scholarships and fellowships periodically or occasionally.

The Commission on Financing Higher Education attempted to discover the size of the scholarship job in the country. Assuming that the enrollment goal of higher education should be the highest quarter of the 18-year-old group in intellectual promise, the Commission estimated that an able group of 453,000 students might be induced to go to college. For a 4-year period, at an average cost of \$500 a year, the total cost would approximate \$226 million annually.<sup>3</sup>

### Geiger Counters and Scintillometers

There is no single source of all the information available about scholarships and fellowships, but there are several sources—Geiger counters—which, combined, afford fairly adequate coverage. The most nearly complete guide to foundation activity in the area of grant making is the seventh edition of *American Foundations and Their Fields* (now in press), which lists more than 3,500 foundations and trusts, giving the name, address, size of assets, grants, and to the fullest extent obtainable, donors, purposes, methods, limitations, fields of interest, officers, and trustees. Other compilations are

*Scholarships, Fellowships, and Loans* by Feingold; *Your Opportunity* by Jones; *Scholarships and Fellowships Available at Institutions of Higher Education*, the Office of Education publication issued in 1951; and *Study Abroad*, the UNESCO publication now in its sixth edition, which lists over 45,000 fellowships, scholarships, and other subsidized opportunities for educational travel.

In addition to the general directories, there are numerous special directories. The Council on Social Work Education publishes annually a compilation of *Social Work Fellowships and Scholarships in the United States and Canada*. The National Scholarship Service and Fund for Negro Students has issued *Opportunities in Interracial Colleges—A Handbook*, which gives information about requirements for admissions and scholarship opportunities in more than 200 interracial colleges. The Board of Education of the Methodist Church issues *National Methodist Scholarships*, which describes the scholarships it makes available and contains rules governing their administration. The State University of New York has published a *Directory of Scholarships and Loan Funds* which lists all types of student aid available in the form of scholarships and loan funds at the several units of the university. Other institutions of higher education, either in their catalogs or in separate bulletins, publish information about financial aids available to students. Professional and educational magazines carry announcements relating to fellowships available for study in various fields. Newspapers, particularly the Sunday editions, carry as news items announcements of grant-making agencies and institutions.

The consistency with which scholarship and fellowship announcements refer the prospective candidate to the committee on scholarships and fellowships or to the dean of the graduate or professional school suggests the importance of the institution itself as an appropriate place to which inquiries should be directed for information about the availability of financial aid. The advice most frequently given to individuals requesting the Office of Education for information about scholarships or fellowships is: Write to the college or colleges of your choice for information concerning financial assistance. When it is remembered that approximately one-third of the

money used for scholarships and fellowships comes from unrestricted income of the institution, the wisdom of this advice can be appreciated.

Two developments which will influence the scholarship picture in the future merit brief mention. The College Entrance Examination Board has established, at the request of participating colleges, a College Scholarship Service. The service has prepared a confidential form on which all family information and financial data pertinent to a candidate's application for aid are entered. It is the aim of the College Scholarship Service to develop procedures which will assist the colleges in computing the actual extent of a student's resources so that they may take steps to meet his need. In recent years colleges have begun to bid against each other for talented students, and this new cooperative effort is designed to adjust aid to need, reduce bargaining, and insure that the greatest possible number of promising high school graduates will attend college.

### Competition Is Keen

A second development is one which will render acute competition for both admission to college and scholarship assistance. The increasing birthrate of the past 9 years has led to the prediction that an impending tidal wave of students may be expected to engulf the colleges and universities. The predictions range from 4 million to 6½ million by 1970 depending upon whether there is no increase in the percentage of college-age youth attending college or whether the present rate of increase becomes accelerated by as little as 1 percent per year. Unless facilities, faculties, and finances can keep abreast of the projected increase, the requirements for qualifying for financial assistance, and the requirements for admission will be considerably higher than they are today.

Some years ago the president of a large Midwestern university was discussing with the faculty his opposition to tenure. He held forth at some length to his line of argument: Good faculty members did not need tenure and poor ones did not deserve it. Too much security induced complacency. Lack of tenure, he concluded, kept a man on his toes. One of the senior members of the faculty, deeply moved and holding a point of view in utter contrast to that of the president arose and said,

<sup>3</sup>John D. Millet. *Financing Higher Education in the United States*. New York: Columbia University Press, 1952.



"Mr. President, you mean on our knees!"

During the earlier part of the century, philanthropy was considered synonymous with charity and the genuflection was believed to be the appropriate gesture to indicate appreciation. The picture has changed. Philanthropy now stems from big business—in fact, is big business. The student who would qualify for a scholarship or a fellowship today must seek it not on his knees but on his toes.

## Ed-Writers Present AWARDS

THE EDUCATION WRITERS ASSOCIATION, at its 7th annual awards luncheon in Washington on April 21, presented awards and special citations for outstanding achievement in educational journalism during 1954.

Awards went to the following newspapers: *The Providence (R. I.) Sunday Journal*, with special commendation to James K. Sunshine, education editor; *The Columbus (Ohio) Dispatch*, for feature articles written by Mary McGarey, education writer; *The Quincy (Mass.) Patriot-Ledger*, for articles written by Fred Pillsbury, editorial page editor; *The Rochester (N. Y.) Democrat and Chronicle*, with special commendation to Clifford E. Carpenter, editorial writer.

Special citations were presented to Mrs. Richard J. Jarvis, *The Sheboygan Press*; Noel Wical, *The Cleveland Press*; Hal Tribble, *The Charlotte (N. C.) Observer*; Ann Russell, *The Cincinnati Enquirer*; John Mason Potter, *The Boston Post*; Ruth Dunbar, *The Chicago Sun-Times*; and the *New York World-Telegram and Sun*.

Judges for the awards were: Joseph B. Cavallaro, chairman of the New York City Board of Higher Education; Belmont Farley, director of Press and Radio Relations, National Education Association; Roy E. Larsen, president of Time, Inc., and chairman of the National Citizens Commission for the Public Schools; John H. Lloyd, managing editor of *School Life*, United States Office of Education, and David G. Salten, Superintendent of Schools, Long Beach, Long Island.

# Annual Expenditure per Pupil for 215 City School Systems

1939-40—1952-53

by Lester B. Herlihy, Specialist in Educational Statistics, Office of Education,  
U. S. Department of Health, Education, and Welfare

THE TREND in the annual current expenditure per pupil for 215 identical city school systems for the 13 years from 1939-40 through 1952-53 is shown in the accompanying table according to a distribution of cities by 4 population groups.

In the period under review, the 56 school systems of the group I cities (population 100,000 or more) used for this study increased the total amount of the current expenditure per pupil in average daily attendance by \$23, or from \$243 in 1939-40 to \$266 by 1952-53. This represented a 9.5 percent increase for the 13-year period on the basis of a 1952-53 dollar value. In the 59 group II cities (population 25,000 to 99,999) the increase was \$63 per pupil, or 32.5 percent; as compared to \$81 per pupil increase or 48.5 percent for the group III cities (population 10,000 to 24,999);

and \$73 per pupil, or 47.7 percent increase recorded for the 48 city school systems in the group IV cities (2,500 to 9,999).

Thus, during this period of 13 years the small and medium-sized cities increased their current expenditures per pupil by amounts at least three times greater than that reported for the large city school systems. Relatively, the increases by these school systems in group II, III, and IV cities were from 3 to 5 times as great. Despite the relatively greater increases shown for the less populous cities of group II, III, and IV, the group of large city systems still reported an average expenditure per pupil greater in amount by 3.5, 7.3, and 17.7 percent than that expended per pupil by the medium-sized and 2 small groups of city school systems.

## Annual Total Current Expenditure per Pupil, Full-time Day Schools, by City-size Group: 1939-40 Through 1952-53

[Adjusted to the 1952-53 dollar] \*

School year	EXPENDITURE PER PUPIL IN AVERAGE DAILY ATTENDANCE							
	GROUP I (56 systems) <sup>1</sup>		GROUP II (59 systems) <sup>2</sup>		GROUP III (52 systems) <sup>3</sup>		GROUP IV (48 systems) <sup>4</sup>	
	Amount	Percent of change over 1939-40	Amount	Percent of change over 1939-40	Amount	Percent of change over 1939-40	Amount	Percent of change over 1939-40
1	2	3	4	5	6	7	8	9
1939-40....	\$243	.....	\$194	.....	\$167	.....	\$153	.....
1941-42....	235	-3.4	194	.....	171	+2.4	154	+0.7
1943-44....	236	-3.0	201	+3.6	172	+3.0	158	+3.2
1945-46....	251	+3.3	221	+13.9	192	+15.0	181	+18.3
1947-48....	252	+3.7	234	+20.6	200	+19.8	193	+26.1
1949-50....	252	+3.7	246	+26.8	236	+41.3	213	+39.2
1951-52....	258	+6.2	239	+23.2	243	+45.5	216	+41.2
1952-53....	266	+9.5	257	+32.5	248	+48.5	226	+47.7

\*On basis of Consumer Price Index figures taken from Series A1 (1947-49=100) U. S. Department of Labor, Bureau of Labor Statistics, Washington 25, D. C. (Monthly Labor Review, February 1953).  
<sup>1</sup> Cities of 100,000 population and more. <sup>2</sup> Cities of 25,000 to 99,999 population. <sup>3</sup> Cities of 10,000 to 24,999 population. <sup>4</sup> Cities of 2,500 to 9,999 population.

# Focus on the Junior High School

by Walter H. Gaumnitz, Specialist, Rural and Small High Schools, Office of Education,  
U. S. Department of Health, Education, and Welfare

THE SECONDARY EDUCATION STAFF of the Office of Education has increasingly become convinced that the junior high school should receive more thought and study than in the past. Discussions at staff conferences have from time to time considered what could be done to focus more professional attention on this neglected segment of the school system. This article sketches the results of this planning to date and points out some of the results achieved.

One of the most outstanding efforts resulting thus far is the greater scrutiny given to the data gathered, compiled, and published as "Statistics of Public Secondary Day Schools,"<sup>1</sup> which was formerly made biennially but is now on a 6-year schedule. This restudy of the available statistics resulted first of all in a somewhat clearer classification of the types of reorganized high schools and the rearrangement of the tables to show more clearly the grade combinations and the location of the separately organized junior high schools and those combined as junior-senior high schools. It also resulted in the survey's giving greater emphasis to the reorganization trends of these types of secondary schools during recent decades.

In addition to these increased emphases upon this segment of education in the general biennial survey report itself, a number of studies were published. One of the most revealing reports of this type is contained in a document recently issued under the title "Junior High School Facts—A Graphic Analysis."<sup>2</sup> This report presents the available data in graph and chart form, showing the origin and progress of this reorganiza-

tion movement in secondary education not only for the Nation as a whole but for each of the States. It also shows the various forms this reorganization is taking and suggests certain unsolved problems in providing suitable programs and services for educating the younger adolescent. The graphs also point to both comparison and contrasts among the States. Both approaches are obviously needed for a clearer understanding of this movement.

The 42 tables and graphs resulting from this study are divided into 5 major sections: (1) The junior high school; its beginning, primary purposes, and trends; (2) the status of the junior high school by States; (3) attendance, retention, and employment facts relating to junior high school youth; (4) indices of junior high school services and programs; and (5) characteristics and problems of the junior high school youth. To round out this study a section of 8 pages of selected and annotated references concerned with "junior high school status and trends" was added.

In preparing this report, "Junior High School Facts—A Graphic Analysis," it was

necessary to compile 10 tables of statistics in secondary education which were not published in the *Biennial Survey of Secondary Day Schools* in the specific form needed. These supplementary statistics were published under the cumbersome title "Supplementary Statistics of Public Secondary School, 1951-52, With Special Emphasis upon Junior and Junior-Senior High Schools."<sup>3</sup>

At present the staff of the Secondary Education Section has two additional major projects underway. One of these is a report growing out of the proceedings of the National Conference of Junior High Schools, held February 24-26, 1955. Forty leaders in this field from all parts of the United States attended. They devoted their attention chiefly to the major problems, strengths, and weaknesses of the junior high schools. They also took stock of the nature of junior high school organization, where it is going, and what needs to be done to improve its development. One of the major outcomes expected from this conference is that these leaders will find cooperative ways of working together to



Cover illustration from *Junior High School Facts*, Office of Education Publication.

<sup>1</sup> *Biennial Survey of Education in the United States 1951-52*, Chapter 5, Washington, D. C., Government Printing Office, 1954, 81 pp., 35 cents.

<sup>2</sup> Office of Education, Miscellaneous No. 21, Washington, D. C., Government Printing Office, 1955, 91 p., 50 cents.

<sup>3</sup> Washington, D. C., U. S. Department of Health, Education and Welfare, Office of Education, Circular No. 423, 10 p. Free.

solve the problems peculiar to this field. In addition, it is sure to cause an intensification of interest in this whole segment of the schools.

Another important project, recently launched by the Office of Education to implement the recognized functions to the junior high schools, is the preparation of 11 annotated bibliographies.<sup>4</sup> The series is devoted to the following basic junior high school subjects: Organization and supervision, guidance and pupil personnel problems, student government and activities, curriculum problems, core curriculum, the language arts, mathematics and science, art, industrial arts, aviation, and a group of sources relating to health, safety, athletics, and outdoor education of junior high school youth. The sources listed are limited almost entirely to those published since 1945.

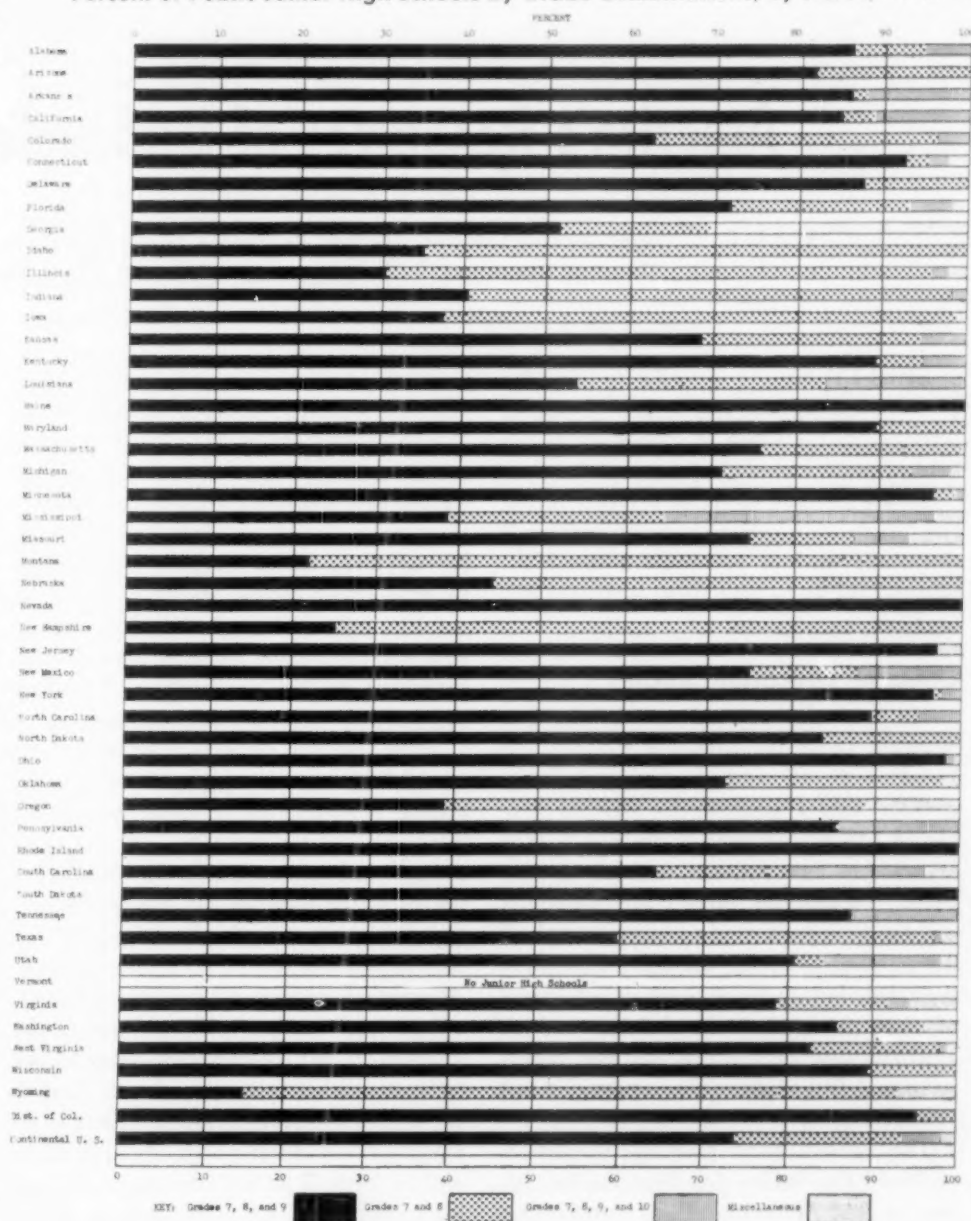
The staff members of the Secondary Education Section of the Office of Education have also projected several additional studies relating to the nature and services of the junior high schools. A project already under way is a study concerned with the status and trends of State policies which govern the developing role of the junior high school. It makes a lot of difference, for example, whether grade 9, despite its inclusion in the junior high school organization, continues to be grouped with the regular or senior high school grades in the State and local record forms, in the graduation requirements, and in the accreditation plans; or whether this grade is treated as an integral part of the junior high school, primarily devoted to serving the distinctive educational needs of young adolescents.

Still another project in the long-range plans of the Office of Education involves a questionnaire study to determine the significant practices followed by a representative group of junior high schools in replanning and vitalizing their work with these young adolescents.

Finally, some thought is being given to a study of State activities and plans for the improving of the programs and techniques of instruction of the junior high schools. That study will primarily center on the State departments of education in this field. Some attention is also to be given to existing provisions for the pre- and in-service education of the principals and teachers who man the junior high school.

<sup>4</sup> Circulars, Nos. 425-35. Single copies will be available from the Publications Inquiry Unit of the Office of Education. They may, of course, be freely duplicated by anyone wishing to do so.

Percent of Public Junior High Schools by Grade Combinations, by States, 1952



Source: "Statistics of Public Secondary (Day) Schools, 1951-52" (special tabulation)

There seems to be general agreement that the education of young adolescents is of such far-reaching importance as to warrant special attention at this time. The reorganization of secondary education to include some form of junior high school has gone far, and the process seems to be speeding up. During the last 9 years, the separately organized junior high schools have increased by roughly 100 new schools per year; the junior-senior high schools have been growing by nearly 400 new schools per year.

Too often, however, it appears to those appraising this movement that the more this level of education changes, the more it

remains the same. New grade combinations are formed and new buildings constructed, but the program of instruction and the teaching methods remain largely unchanged. The proportion of boys and girls remaining in school becomes greater year by year, the social and economic system grows more complex, and our knowledge of how youth learns increases. All of these developments point unerringly to the fact that young adolescents must now have both more and different types of educational opportunity than in the past. The junior high school fails significantly, indeed, if it does not fit its services to the many new educational needs inherent in these changing conditions.



# America's Resources of Undeveloped Talent\*

by Ralph C. M. Flynt, Acting Director, Student Personnel Services Branch, Division of Higher Education,  
Office of Education, U. S. Department of Health, Education, and Welfare

I SHOULD like to describe to you the current program and a few pertinent activities of the Office of Education in the field of pupil and student personnel.

We are just now bringing to a conclusion two large-scale pieces of research which are essentially student personnel focused, although they have both fiscal and program implications.

## Office of Education Studies

The first of these studies, entitled "Cost Students Incur in Attending College," is based on 16,000 student questionnaire responses from a scientifically selected sample of 110 higher institutions and is thus expected to have validity on a nationwide basis. Of especial interest for counselors will be the information to be presented on the number receiving financial assistance, their distribution, the amount and character of such assistance, the level at which awarded, and the correlations with family income. This study will be reported in full late this spring.

The second study nearing completion, entitled "The Study of College Student Retention and Withdrawal," is based upon 13,630 student questionnaire responses from a scientifically selected sample of 153 higher institutions. It will also be reported in full in the late spring or early summer. A summary will be presented by Robert E. Iffert of our staff on April 18 at the meeting of the American Association of Collegiate Registrars and Admissions Officers in Boston. We expect the results to be invaluable to both higher institutions and secondary schools. It will be the first nationwide study of student mortality in higher institutions since 1936 when the Office of Education made a similar study.

We have plans for an early beginning on two studies which we also expect to be

useful to counselors at all levels. They are, first, a study in depth of the student assistance programs in 25 representative cooperating higher institutions; and second, a revision of Bulletin 1951, No. 16, *Scholarships and Fellowships*, which is widely used by secondary school counselors as well as by prospective college students. The revised bulletin will be amplified to include additional summary financial data and information on the availability of student assistance from noninstitutional sources.

These research projects have been mentioned here because we expect them to be helpful in solving the problem implied by the subject of my remarks.

I acknowledge my debt to Dael Wolfle for the use of the words of the subject, "America's Resources of Undeveloped Talent," for they paraphrase the title of his recent book, *America's Resources of Specialized Talent*.

I have selected a particular aspect of the problem of our undeveloped talent to lay before you who are concerned with counseling in the secondary schools. It has to do with that considerable body of youth of the highest level of ability who graduate from high school but fail to attend college, and of that smaller but still considerable body of equal ability who fail even to graduate from high school. I shall also suggest a few tentative approaches to the solution of the problem posed.

## 200,000 Unable To Attend College

According to estimates, 150,000, or approximately one-half of the highest ranking quarter of those graduating annually from the high schools do not attend college, it is believed principally for economic reasons. It is further estimated that 60,000 students of equivalent ability do not even graduate from high school. These figures establish a rough order of the numbers involved in what I have termed America's Resources of Undeveloped Talent. They have been prepared for me by our Research and Statisti-

cal Standards Service and have been cross-checked with estimates made by Byron S. Hollinshead in his volume, *Who Should Go To College*, prepared for the Commission on Financing Higher Education, by Professor Robert Havighurst of the University of Chicago, and by Dael Wolfle. These estimates should be regarded as tentative and subject to constant checking and rechecking as we proceed with future planning for secondary and higher education.

The estimates quoted indicate that about 200,000 young persons who rank in the highest one-fourth of ability do not receive a college education. When the figure 200,000 or any significant part of it is placed against the current total of high school graduates, now about 1,200,000, and first-year college enrollments, now more than 550,000, it assumes important proportions. We face in the United States today the problem of finding a way to draw into further education significantly larger numbers of these young people of highest ability.

The failure of large numbers of the ablest persons in our population to secure a college education is not only a serious loss to the personal development of such individuals, but also a serious loss to the Nation of critically needed manpower at the highest level of training. In 1940 there were 2,580,000 18-year-olds in the total United States population of approximately 132 million. In the estimated United States population for 1954 of 162 million there were only 2,160,000 18-year-olds. The 18-year-old population level of 1940 will not again be reached until 1960, when it is estimated that our total population will be 175 million. From this present minimum manpower pool we must fulfill our immediate needs not only for additional scientific, technical, and other leadership, but also for the rank and file of trained personnel.

Some observers have assumed from the gross numbers of our college population that all is well. It is true that there has been

\*Based on an address before The Massachusetts Council of Private Schools, Boston, Massachusetts, on March 18, 1955.

a considerable increase in the proportion of the age group 18-21 attending college, from 15.3 percent in 1940 to 24 percent in 1953. The total numbers have also increased, from 1,364,000 in the fall of 1939 to 2,475,000 in the fall of 1954. These significant increases, both in proportion and in number, have not included the considerable body of undeveloped talent to which I refer.

A number of factors combine to prevent the attendance at college of the optimum percentage of those of highest ability, and indeed of many of less conspicuous talent. Despite rises in the average family income, the increased tuition and fee charges, together with the rising cost of living on higher institution campuses, have excluded many able but needy students from college. The years of high employment since World War II have caused many young people to begin work early and thus to forego college.

### Research Needed

I suggest that these rather facile and seemingly pervasive reasons do not go very far toward answering the question of why many brilliant youths do not reach an optimum level of education and training. The more elusive but more fundamental reasons for this phenomenon, I submit, are those which must interest and challenge the counselor. These reasons are rooted, I believe, in the subtle setting in which the fragile flower of motivation is nourished.

I take it that we can assume that two factors work strongly to induce college attendance: Indication of high intellectual ability as shown, for example, in test scores, and markedly good work in secondary school. These alone do not do the job, as I have indicated earlier in these remarks.

Two other factors are of greater importance in preventing college attendance, certainly in the instance of the top-level student who fails to reach college. They are, first, money; and second, "desire," a word which Eddie Erdelatz, who coaches the successful football team of the United States Naval Academy, has given new currency.

We have a good deal of rather satisfactory data which correlates college going with family income versus college costs versus other pertinent data, and we are gathering new and more comprehensive data all the time. Such correlations are generally clear and revealing, but they do not tell us one thing we badly need to know, and that is how many students of good intellectual ability but poor financial

ability would go on to college if adequate funds could be provided them. We have some good studies such as the one Ralph Berdie did in Minnesota. It indicates that probably one-half of the able students who do not attend college for lack of financial resources would do so if funds could be provided.

These studies, as good as they are, can not be added together to give us a reliable nationwide picture. This we badly need and must have. I expect that we shall find ourselves a long way on the road to this goal when the results of the study now being carried out by the Educational Testing Service at Princeton, N. J., for the National Science Foundation are reported. The report of the study is expected this summer. This study includes responses from approximately 60,000 students in a scientifically selected sample of high schools drawn from the entire country, and thus should be valid for general application. If we could fix with accuracy the numbers who would attend college if money were available, we could measure the size of the total financial effort which the institutions, the States, private philanthropy, corporate giving, and other sources, should make in order to reach the indicated number of youth. I predict that when all the evidence is in we are going to find the view of one witty observer who said, "Money is not everything, it is just the only thing," substantially corroborated. I suspect also that we will find after we have passed beyond the category where money is the controlling factor that it is highly correlated with other factors.

The question of desire for college attendance is rooted in a very complex matrix of psychological and sociological factors. I suspect that counselors know more about the substantive character and the interrelationships of these factors than any other group of professional persons who work in the schools. I therefore commend to you the most searching study of them and their effects. I can only suggest some examples.

I suggest as one example the fact which is brought out in Dr. Wolfe's study that almost three times as many children of professional people attend college as of craftsmen and unskilled factory workers.

Another example is found in 8 States and the District of Columbia, where from 22 to 30 percent of the 18- to 21-year-olds are in college, while in 5 other States only 10

to 11 percent of the same group attend. Twenty-one percent of Massachusetts youth of this age group were in college in the year for which these data are valid. But this does not give us a very refined picture. The range between rural and urban is great. Parts of some States do not send as many youth to college as other areas.

Enrollment of women in our colleges is only about one-third of that of men. Since girls usually excel as high school students we are clearly losing a large potential here. In many geographical areas and among some racial groups college going is not encouraged among girls.

Our Negro youth represent another very large segment of unrealized potential. Psychologists have long since exploded the fallacy that Negroes distribute themselves differently throughout the ability curves from whites. Thus there is no valid reason for our neglect of this unrealized potential.

So much for examples of factors which affect the urge, desire, or motivation for college attendance. These factors vary in intensity and degree, are frequently found in multiple combinations, and again appear to reside in some personal equation which seems wholly to elude even the trained specialist.

### Recommended Activities

Finally, I should like to propose a few courses of action which would, I believe, help us markedly to insure that all able youth receive optimum education and training.

First, I assume that we shall be able with reasonable accuracy to determine the additional numbers who would attend college if funds were available to them. We should then review our prevailing student assistance practices with a view to overhauling them where necessary, and create by the unified or parallel efforts of the institution, the States, private donors, and other additional programs of student assistance which will reach with certainty those whom we can determine to require money only as the viable factor in the decision to attend college.

Second, we should attempt some kind of talent identification program on a large scale, at least as large as a State. Perhaps it should be a testing program, perhaps it should go further. At any rate it should reach down into the early years of the high school and identify potential talents. The results should be available on a large-scale basis, and early efforts begun to remove all blocks to effective motivation.

Third, we must find ways to create an acceptable and effective methodology for study and analysis of the factors which control motivation in individual cases. This methodology must, moreover, be capable of being administered as a part of a functioning school program by school people, and not alone by highly specialized sociologists and psychologists working under laboratory or near-laboratory conditions.

Fourth, we must seek greatly improved coordination between counseling and all other student personnel services in the secondary schools and in the colleges in order that the effectiveness of one may not be lost in the transition to the other.

Fifth, the schools and colleges together must enlist community participation and support in establishing a matrix in which superior talent is quickly recognized and its optimum motivation positively fed, for edu-

cation cannot do this without the help of other community institutions.

In conclusion, I wish you to be assured that I make no claims that college going should be the only goal of the bright student. Those walks of life which do not require college preparation must also have their fair share of brains. I do suggest, however, that college attendance should be a possible goal of this group for personal development and better civic service.

I have frequently used the word "optimum" today, and it is my conclusive judgment that the brilliant youth, estimated to reach 200,000 in numbers, who do not now reach college, should receive "optimum" education and training and that we should take the indicated steps, whatever they may be, to accomplish this objective, which is desirable in the interest both of the individuals concerned and of our country.

cruiting and training mature college graduates who lack qualifying teacher education."

### Tailormade Plan

This development seems to offer a plan almost tailormade for AAUW. Indeed in the discussions and field work AAUW was often referred to by both educators and citizens as *the* group in the community to find candidates for training and to serve on screening committees.

A college course especially planned to lead to the certification for teaching of the mature liberal arts graduate has frequently been suggested by AAUW members who have themselves undertaken refresher courses in order to re-enter the teaching field. Some of these suggestions for the improvement of training courses, as well as an expression of the satisfaction gained by mature women in teaching, were reported in the AAUW JOURNAL, March 1954, under the heading "To Teach or Not To Teach" (page 160).

Many branch reports for 1954 indicate AAUW's alertness in seeking to recruit teachers from the heretofore little-used resource of mature women who are able to take jobs in addition to home responsibilities. Summary statements from branch reports will illustrate:

*Green Bay, Wisconsin:* "Several members were encouraged to become properly certified."

*Wichita Falls, Texas:* "Survey shows twelve have returned to teaching in past year, twenty-five returned to midwestern university in past 4 years to complete education and retrain for teaching."

*Kaysville, Utah:* "Branch has been 'very instrumental' in interesting five women in finishing their education to relieve teacher shortages in county."

*Virginia City, Minnesota:* "Interviewed superintendent of schools as to possibility of refresher courses in education being offered at Duluth Branch, University of Minnesota."

*Euclid, Ohio:* "We are now engaged in a study of teacher recruitment—trying to ascertain specific ways in which we may help in our local community to encourage well qualified mature college women whose families are now fairly independent to return to the profession."

*Oakland, Michigan:* "Education Committee has fortified itself with background material

## New Teachers for Our Schools

**A**T LAST, steps are under way for a concerted attack on one aspect of the teacher-shortage problem. Last May, top-flight educators, civic organization leaders, and representatives of communities throughout the country set to work on a plan for "recruiting, training, and delivering to the Nation's overburdened and understaffed schoolrooms mature, qualified women, holding bachelor's degrees, but without previous professional preparation or experience in teaching."

For a long time, AAUW has been pointing out that a promising source for augmenting our inadequate teacher supply is to be found in the large number of women college graduates who have reared their families and could consider teaching. Two AAUW staff members, Christine Heinig and Winifred Helmes, have represented AAUW on the nationwide committee which was called by Mrs. Alice K. Leopold, Director of the Women's Bureau, and Dr. Samuel M. Brownell, U. S. Commissioner of Education, to develop this approach.

After the committee's first meeting in

May, a subcommittee, of which Miss Heinig was a member, undertook field surveys in fifty community groups in Illinois, Wisconsin, Missouri, Minnesota, Kansas, Kentucky, Tennessee, Oklahoma, Texas, New Jersey, and Maryland, "to explore teacher resources among mature persons holding bachelor degrees. . . ." These surveys revealed not only an awareness of the acute shortage of fully qualified teachers, but also a real need "for a program of this type which could be worked out on the local level."

A second meeting of the full committee, on August 6, voted to create a permanent committee "representing the institutions and agencies attending this conference" to assist Mrs. Leopold and Dr. Brownell "in promoting active programs for re-

*This article, originally published in the Journal of the American Association of University Women, is republished in SCHOOL LIFE as evidence of how one national organization is working at the State and community level to help solve the Nation's growing teacher shortage problem.*



on the present need for teachers in our local schools. It has used every opportunity to urge AAUW members, whenever possible, to return to or enter the teaching field. Local superintendents of schools have been alerted to the resources within our membership. In turn, members were referred to the superintendents for guidance in refresher or enabling courses. Many members have already begun, or are planning in the near future, to serve either as contract or substitute teachers."

*El Paso, Texas:* "Cooperated with State Chairman in survey of courses being offered to refresh former teachers and to train college graduates for teaching."

*Fort Worth, Texas:* Education Committee mimeographed and distributed to members of the branch a list of recommendations on action members might personally take to correct teacher shortage situation. One recommendation reads: "We can emphasize the service motif in encouraging capable men and women to enter the teaching profession."

*Boise, Idaho:* The branch "hopes to help to organize a refresher course for next year."

The work done in the Tulsa, Oklahoma, Branch, is especially interesting. Two hundred letters sent to branch members in 1954, asking whether the recipient would be interested in teaching, were answered in the affirmative by 34 members who were able to consider full-time teaching. Twenty-six members indicated interest in substitute teaching; 11 were able to consider full-time teaching. Twenty-three expressed interest in and need for training.

In Wisconsin, AAUW branches made a survey last year of members willing to return to teaching and found upwards of 350 women who were interested.

### Flexible Program

The "new" idea for teacher recruitment emphasizes adding highly qualified persons to the ranks of the teaching profession by drawing from a new resource of manpower, the college graduate who has never taught or prepared for teaching. Such teachers will give stability to the staff of a local school because they will probably teach in 1 school system continuously for a period of 10 to 20 years. Such stability is much needed in many school systems where the turnover in the ranks of the younger teachers is exceedingly high, from 30 to 50 percent yearly.

The national committee does not plan to

work out the details of any given program nor does it expect to find funds to enable a local group to undertake it. Indeed, this program must be flexible and should be developed locally according to the individual needs of the specific people who are to take the training. All indications are that the program will not be expensive and that funds to finance it can be provided locally, by institutions and by individual tuitions.

It is expected that citizens' groups, educational and civic, school administrators and directors of teacher-training institutions will work jointly to develop such a plan, but the start will of course have to be made by some persons or groups who see the importance and practical possibilities of this idea and who will take the initiative therefor to gain community support for it. Several AAUW branches and some State divisions seem already to have done groundwork that will make this plan a "natural" for them to sponsor. Correspondence about the program may be addressed to Dr. Brownell or Mrs. Leopold or to Miss Christine M. Heinig, AAUW Associate, at Headquarters, 1634 Eye St. NW., Washington 6, D. C.

### Supervisors Discuss Educational Problems

(Continued from page 115)

How long is your school day? How do you encourage self-improvement in the professional staff? What processes do you use to improve the curriculum? How do you know that what you do really improves opportunities for children? Do children do better when taught by one teacher or when taught by a number of more specialized teachers? How do you keep friendly and mutually helpful relations with the public?

Evaluations of the conference were invited. All those received by the chairmen have been favorable. The most rewarding tribute, however, was from a man who had traveled 2,000 miles to the conference: "I have dreamed for many years of such a chance to meet the type of people present at this conference."

A full report of the conference is being prepared in processed form. It will be sent to all participants at the conference, and a limited supply will be available to others who wish to have it.

### Why Have a Board of Education?

(Continued from page 113)

public concern. Boards of education discharge the important policymaking functions without excessive expenditures of public funds. It is general practice for members of boards of education to serve without pay and to receive compensation only for their expenses.

*A board of education provides a safeguard against fraud and malfeasance.*—It is more difficult for 2 or several persons to commit a dishonest act in collusion with each other than it is for 1 person to perpetrate a fraud alone. This fact lies behind the centuries-old principle that internal checks must be employed to safeguard public funds.

### Practical Nurse Training Schools

In the United States and its Territories, 391 schools offer practical nurse training in 331 different localities. Public education authorities operate 244 of these schools in 217 different localities; private agencies operate 147 schools in 133 different localities. In many localities more than one school is offering training in practical nursing, consequently the number of schools exceeds the number of localities in all categories. States and Territories with no schools of practical nursing under public education are: Alaska, Canal Zone, Maine, Maryland, New Hampshire, New Mexico, Oklahoma, Virgin Islands, West Virginia, and Wyoming. States and Territories with no schools of practical nursing are: Canal Zone, Maine, Virgin Islands, and Wyoming. Practical Nursing is without licensure in Colorado, Delaware, Nebraska, Ohio, West Virginia, Wyoming, District of Columbia, and Canal Zone.

The Division of Vocational Education, Office of Education, made public this and additional information on practical nurse training in the States and Territories in Misc. 3473-3474, October 1954.

# Elementary and Secondary School Enrollment in the Public School System of the United States, By Grade, 1949-50 Through 1959-60

by Emery M. Foster, Head, Reports and Analysis, and Carol Joy Hobson, Research Assistant,  
Research and Statistical Standards Section, Office of Education, U. S. Department of Health, Education, and Welfare

IN THE past few years, much concern has been expressed over the mounting enrollments in public schools and the problems of preparing to cope with the expected continued increases in enrollment for the years to come. Two recent SCHOOL LIFE articles<sup>1</sup> by the authors presented information on general enrollment trends, teacher shortages, and expenditures. This article presents specific data on the anticipated distribution of the public school enrollment for use in planning for additional teachers and facilities to meet the increases in enrollment at various levels.

<sup>1</sup>"Vital Statistics of American Education: 1954-1960," Vol. 36, No. 1, October 1954; and "Elementary and Secondary School Enrollment in the United States 1929-30 to 1959-60," Vol. 37, No. 4, January 1955.

## Total Enrollment

There will be, according to Office estimates, an increase of 12,293,000 pupils in the enrollment in the public school system between 1949-50 and 1959-60, of which 9,826,000 will be in the elementary grades (K to 8) and 2,467,000 in the high school grades (9 to 12). This increase is equal to the entire 1950 population of New York City, Chicago, and San Francisco.

The 12 million increase is about equal to the entire enrollment of 12,264,216 in the fall of 1954 in the 7 States with the highest enrollment plus that of Kansas. This means that to meet the increased enrollment in these 10 years (12,293,000), the Nation will have to provide an entire school system equal to that serving the fall 1954 enroll-

ment of the States of California, New York, Pennsylvania, Texas, Ohio, Michigan, North Carolina, and Kansas combined (12,264,216).

The 12-million increase is equal to more than 5 times the 1954 fall enrollment in either California or New York State, or 7 times the enrollment in Texas, or 9 times the enrollment in Michigan, or 12 times the fall 1954 enrollment in North Carolina.

Another comparison that shows the size of the problem of providing for the 10-year increase in the number of pupils may be made by using the school enrollment in the fall of 1954 in the smaller States. The entire school enrollment in 33 States and the District of Columbia was 12,292,419 pupils. This is fewer than the 12,293,000 pupil-

Estimated Public School System Enrollment for Continental United States, by Grade, 1949-50 through 1959-60<sup>1</sup>

[Thousands]

Grade	SCHOOL YEAR										
	1949-50 <sup>2</sup>	1950-51	1951-52 <sup>2</sup>	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
1	2	3	4	5	6	7	8	9	10	11	12
K	1,034	941	1,272	1,312	1,237	1,237	1,228	1,280	1,308	1,344	1,298
1	3,170	3,053	2,957	3,319	4,152	4,285	4,267	4,250	4,369	4,481	4,602
2	2,645	2,739	2,670	2,978	2,886	3,617	3,741	3,731	3,723	3,834	3,938
3	2,396	2,601	2,718	2,769	2,855	2,767	3,468	3,587	3,578	3,571	3,677
4	2,254	2,358	2,559	2,559	2,700	2,783	2,698	3,382	3,497	3,489	3,482
5	2,151	2,211	2,320	2,397	2,483	2,619	2,700	2,618	3,281	3,394	3,386
6	2,056	2,117	2,166	2,229	2,361	2,447	2,581	2,661	2,580	3,234	3,345
7	1,947	1,995	2,083	2,103	2,180	2,311	2,394	2,526	2,604	2,525	3,165
8	1,752	1,885	1,936	1,906	1,940	2,014	2,138	2,215	2,338	2,410	2,338
K-8	19,405	<sup>2</sup> 19,900	20,681	21,572	22,794	24,080	25,215	26,250	27,278	28,282	29,231
9	1,756	1,781	1,820	1,903	1,964	1,998	2,073	2,199	2,279	2,404	2,479
10	1,512	1,548	1,582	1,661	1,722	1,782	1,815	1,887	2,006	2,079	2,194
11	1,274	1,313	1,338	1,401	1,439	1,500	1,559	1,592	1,660	1,770	1,835
12	1,123	1,127	1,111	1,202	1,264	1,304	1,364	1,423	1,456	1,519	1,624
9-12 <sup>3</sup>	5,665	<sup>2</sup> 5,769	5,851	6,167	6,389	6,583	6,811	7,101	7,401	7,772	8,132
K-12	25,070	<sup>2</sup> 25,669	26,532	27,739	29,183	30,663	32,026	33,351	34,679	36,054	37,363

<sup>1</sup> Does not include enrollments in residential schools for exceptional children, noncollegiate departments of colleges (preparatory or training schools), and Federal schools or enrollments in the outlying parts of the United States. <sup>2</sup> Reported data; not estimates. <sup>3</sup> Excludes postgraduates.

increase expected in the public school system in the 1950-1960 decade. From the smallest to the largest, the 33 States are as follows: Nevada, Delaware, Wyoming, Vermont, New Hampshire, Rhode Island, Montana, North Dakota, South Dakota, Idaho, Maine, Oregon, Arizona, Nebraska, Connecticut, Kansas, Arkansas, West Virginia, Oklahoma, Maryland, Washington, South Carolina, Mississippi, Iowa, Louisiana, Minnesota, Kentucky, Florida, Massachusetts, Virginia, Alabama, Tennessee, and Missouri.

What will this mean for the coming school year?

The indicated increase for 1955-56 over the school year 1954-55 is 1,363,000 for the school system as a whole, of which 1,135,000 will be in grades K-8 and 228,000 in grades 9-12. To provide for this 1-year increase would take the entire school system of the State of Michigan, which enrolled 1,314,681 pupils in the fall of 1954, or twice the school systems of Massachusetts, or 3 times that of Arkansas, or  $5\frac{1}{2}$  times that of Nebraska, or 10 times that of South Dakota, or 21 times that of Wyoming.

To provide for the 12-million increase in pupils from 1950 to 1960 will take about 440,000 additional teachers. However, when we think in terms of the total number of teachers that will have to be recruited during this 10-year period to replace deaths, retirements, turnover, and substandard emergency teachers the number will be much greater. The problem is complicated by the needs for specific types of teachers and by the gradual shift from elementary needs to high school needs, as the peak of the enrollment passes from grade to grade through the school system. The school year 1955-56, beginning this fall, starts the second half of this decade of increase.

### Grade Enrollment

Projections of grade enrollment in the public school system show increases in the total elementary grades and in the total high school grades for each school year from 1949-50 through 1959-60. The occasional slight decrease in a particular grade for a year or two probably reflects a smaller number of children born in the year from which these enrollments originate. For example, there were 3,649,000 births in 1949 and 3,632,000 in 1950, a decrease of 17,000. Thus the number of children entering our elementary schools from 5 to 7 years later reflects this slight

drop, and the first grade in 1955-56 is slightly less than in 1954-55. In general, however, each grade is larger each year than the year before.

The largest single year increase in the first-grade enrollment occurred between 1952-53 and 1953-54, when the enrollment in this grade increased by more than four-fifths of a million (25 percent). This increase reflected the large increase in the number of births at the end of World War II in 1946 and 1947. From 1953-54 to the end of the decade the changes in the first-grade enrollment will be slight, reaching a high in 1959-60 of 4,602,000, or about 7 percent higher than the current first-grade enrollment. The increases in the first grade cause increases in successive grades in subsequent years as each group of pupils progresses through the school system. Hence, in 1959-60 the 8th-grade enrollment will

be about 16 percent higher than it is at present.

### Method

The general method used in making these estimates has been to apply age-grade specific ratios to the single year of age projections of the population to arrive at a total first-grade enrollment for all schools for each year for which estimates were to be made. The proportion of the total first-grade enrollment that would be in the public school systems was then estimated by using data from the Biennial Survey of Education in the United States. Enrollments in grades 2 through 12 were then obtained by applying retention ratios to the public school system's first grade. The first-grade enrollment is comprised of pupils in this grade for the first time as well as those pupils who are repeating the grade.

## An Educational Bottleneck

*(Continued from inside front cover)*

upward, the proportion of college graduates who qualify to teach high school science and mathematics continues to decrease.

Between 1950 and 1954, the total number of college graduates meeting certification requirements to teach in high school dropped 42 percent, and the number qualified to teach mathematics and science dropped 51 percent and 56 percent, respectively. Of those qualified, many actually find employment in other fields. A recent study showed that only 40 percent of the 1953 college graduates qualified to teach science and mathematics were teaching in November of that year. This is the most serious "bottleneck" in efforts to increase the supply of engineers and scientists.

The supply of engineers might be increased if, by intensive guidance procedures in junior and senior high schools, a larger percentage of the students preparing for college could be induced to study engineering. However, this would raise an important question as to the possible effect of such action on other professions. There is some evidence that the number of students in engineering colleges, expressed as a percentage of their age group, has about reached its maximum.

A much more promising method of attack is to attempt to change the proportion of capable high school graduates who go to

college. The recent report of the Commission on Human Resources and Advanced Training shows that 47 percent of the top fifth of high school graduates in ability do not go to college at all.

Their reasons are many, but the two most important ones are financial inability and lack of interest, stemming in many cases from family tradition. If we can find some way of getting more of these competent youngsters into college we can safely assume that engineering will attract its fair share of them. It has done so in the past, as is evidenced by the results of the Selective Service Qualifications Test every time it has been given.

The key persons in such an effort are the high school teachers of science and mathematics, especially the inspiring teacher who brings out latent talents in his or her students, and who helps each student discover his aptitudes and abilities and encourages him to make the most of them through continued education.

To high school guidance counselors I should like to offer a few concrete suggestions as to things which high school teachers and administrators can do to help in this situation. I believe that these are practical suggestions, and that they will need little if any explanation.



# New Books and Pamphlets

Susan O. Futterer

Associate Librarian, U. S. Department of Health, Education, and Welfare

(Books and pamphlets listed should be ordered from the publishers.)

ADMINISTRATION IN PROFILE FOR SCHOOL EXECUTIVES. By Harlan L. Hagman and Alfred Schwartz. New York, Harper and Brothers, 1955. 315 p. \$3.50.

AN APPROACH TO THE STUDY OF MOTIVATION PROBLEMS IN EDUCATION. By William W. Lynch, Jr. Bloomington, Ind., Division of Research and Field Services, Indiana University, 1955. 43 p. (Bulletin of the School of Education, Indiana University, vol. 31, No. 2) \$1.

CHOOSING FREE MATERIALS FOR USE IN THE SCHOOLS. Washington, D. C., The American Association of School Administrators, A Department of the National Education Association of the United States, 1955. 24 p. Illus. 50 cents.

COLLEGE CREDIT BY EXAMINATION: An Evaluation of the University of Buffalo program. By Edward S. Jones and Gloria K. Ortner. Buffalo, The University of Buffalo Studies, vol. 21, No. 3) 50 cents.

FINANCING PUBLIC EDUCATION IN THE DECADE AHEAD. New York, National Citizens Commission for the Public Schools, 1954. 62 p.

HANDBOOK ON INTERNATIONAL STUDY 1955. A Guide for Foreign Students on Study in the United States and for U. S. Students on Study Abroad. New York, Institute of International Education, Inc., 1955. 350 p.

IMPROVE YOUR LEARNING ABILITY. By Harry N. Rivlin. Chicago, Ill., Science Research Associates, Inc., 1955. 47 p. Illus. (A Life Adjustment Booklet) 50 cents.

IMPROVEMENT OF LIVING THROUGH EDUCATION. The Sloan Project in Applied Economics in Vermont. A Report by Maurice B. Morrill and Bennett C. Douglass. Burlington, Vt., Published by The University of Vermont and State Agricultural College as a part of the Experiment in Applied Economics Made Possible by a Grant from The Alfred P. Sloan Foundation, Incorporated, 1954. 108 p.

INTRODUCTION TO TEACHING IN AMERICAN SCHOOLS. By Gordon McCloskey, Zeno B. Katterle, and Delmar T. Oviatt under the Editorship of Willard B. Spaulding. New York, Harcourt, Brace and Co., 1954. 470 p. Illus. \$5.25.

LET'S TEACH ADULTS. Prepared by A Group of Adult Educators. Tallahassee, Fla., Florida State Department of Education, 1954. 55 p. Illus.

MATERIALS FOR THE RETARDED READER. By Cloy S. Hobson and Oscar M. Haugh. Topeka, Kans., State Superintendent of Public Instruction, 1954. 21 p.

MODERN PHILOSOPHIES AND EDUCATION. The Fifty-fourth Yearbook of the National Society for the Study of Education. Part I. Prepared by the Yearbook Committee, John S. Brubacher, Chairman. Edited by Nelson B. Henry. Chicago, The University of Chicago Press, 1955. 374 p. Paper, \$3.25; Cloth, \$4.

PERSONALITY ADJUSTMENT OF INDIVIDUAL CHILDREN. By Ralph H. Ojemann. Washington, D. C., Department of Classroom Teachers and American Educational Research Association of the National Education Association, 1954. 32 p. (What Research Says Series, No. 5) 25 cents.

PHYSICAL EDUCATION FOR ELEMENTARY SCHOOLS. By N. P. Neilson and Winifred Van Hagen. New York, A. S. Barnes and Co., 1954. 552 p. Illus. \$4.50.

PLAYTIME IN THE FIRST FIVE YEARS. By Hilary Page. Philadelphia, J. P. Lippincott Co., 1954. 178 p. Illus. \$3.50.

THE PRESENT STATUS OF ACCREDITED MUSIC INSTRUCTION IN AMERICAN UNIVERSITIES. By Lillian Mitchell Allen. Washington, D. C., The Catholic University of America Press, 1954. 127 p. \$1.50.

READING LADDERS FOR HUMAN RELATIONS. Revised and Enlarged Edition 1954. By Margaret M. Heaton and Helen B. Lewis. Washington, D. C., American Council on Education, 1955. 215 p. \$1.75.

THE ROLE OF THE ADMINISTRATOR IN THE ANALYSIS AND IMPROVEMENT OF INSTRUCTION. Editorial Committee: Fred C. Ayer, Roy M. Hall and Alfred T. Little. Austin, Tex., The Southwestern Cooperative Program in education administration, The University of Texas, 1954. 90 p.

THE SLOW LEARNER IN THE AVERAGE CLASSROOM. By the Subcommittee on the

Slow Learner. New York, Metropolitan School Study Council, 1954. 34 p. Illus. 50 cents.

THE SPRINGFIELD CITIZENS SCHOOL SURVEY. A Survey of the Springfield, Ill., School District. By Citizens of the Community with the Assistance of Consultants from the University of Illinois. Springfield, Ill., The Citizens School Survey Committee, 1954. 114 p. Illus.

STATE AID FOR EDUCATION IN THE STATE OF NEW YORK WITH SPECIAL REFERENCE TO NEW YORK CITY. Report of the Fact Finding Committee on State Aid for Education. Joseph D. Fackenthal, Chairman, Julius B. Maller, Director of Research, Brooklyn, N. Y., Board of Education, City of New York, 1954. 431 p.

THE TEACHER-PUPIL RELATIONSHIP. By Robert Nelson Bush. New York, Prentice-Hall, Inc., 1954. 252 p. \$3.95.

TEAR SHEETS FOR TEACHING. (Designed To Help Teachers Use Inexpensive Pictures More Effectively in the Classroom.) By Charles H. Dent, Leonard B. Ambos and Nancy M. Holland. Austin, Tex., The Visual Instruction Bureau, Division of Extension, The University of Texas, 1954. 24 p. (Bridges for Ideas Series, No. 1) \$1.

THE TECHNIQUES OF READING: An integrated program for improved comprehension and speed. By Horace Judson in Consultation with Kenneth P. Baldridge. New York, Harcourt, Brace and Co., 1954. 406 p. \$4.75.

TRENDS IN THE PRODUCTION OF CURRICULUM GUIDES: A survey of courses of study published in 1951 through 1953. By Eleanor Merritt and Henry Harap. Nashville, Tenn., Division of Surveys and Field Services, George Peabody College for Teachers, 1955. 43 p. 50 cents.

UNIT TEACHING IN THE ELEMENTARY SCHOOL. By Lavonne H. Hanna, Gladys L. Potter, and Neva Hagaman. New York, Rhinehart and Co., Inc., 1955. 592 p. Illus. \$5.50.

ILLUSTRATED GAMES AND RHYTHMS FOR CHILDREN—PRIMARY GRADES. By Frank H. Geri. New York, Prentice-Hall, Inc., 1955. 196 p. Illus. \$3.95.

